



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

SW

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,651	07/15/2003	Yasutaka Ito	238745US-90CONT	5253

22850 7590 12/08/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.  
1940 DUKE STREET  
ALEXANDRIA, VA 22314

EXAMINER
----------

PAIK, SANG YEOP

ART UNIT	PAPER NUMBER
----------	--------------

3742

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/618,651

Applicant(s)

ITO ET AL.

Examiner

Sang Y Paik

Art Unit

3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 September 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 12 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12 and 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9/22/04, 3/11/04, 1/26/04, 3/18/04
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 17, there is no proper antecedent basis for "the connecting portion", and it is unclear whose strand wire is referred to by "its" pronoun.

### *Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12 and 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ushikoshi et al (US 5,306,895) in view of Masanao et al (JP 09-045752).

Ushikoshi et al show a ceramic heater having a sintered nitride ceramic plate with a heating element made of tungsten formed inside the ceramic plate, a bottomed hole made directly opposite to the heating surface, the bottom of the bottom hole formed relatively nearer to the heating surface than the heating element, a temperature-measuring element such as a sheathed thermocouple set up in the said bottom hole, and the distance between the bottom of the bottomed hole and the heating surface is less than the thickness of the ceramic plate as shown in

Art Unit: 3742

Figure 32. However, Ushikoshi et al do not show the temperature-measuring element pressed against the bottom of the bottomed hole.

Masanao shows a hot plate with a hole provided on the bottom of the hot plate wherein the bottom of the bottomed hole is arranged near the heating surface that is more than beyond  $\frac{1}{2}$  of the thickness of the hot plate, and a sheathed temperature-measuring element is pressed against the bottom portion of the bottomed hole. Furthermore, Masanao shows the temperature-measuring element is pressed along the transverse direction of the bottom of the bottomed hole. In view of Masanao et al, it would have been obvious to one of ordinary skill in the art to adapt Ushikoshi et al with the pressed temperature-measuring sensor to make a closer thermal contact with the heating plate so that a more accurate heating temperature can be made.

With respect to claim 18, it is noted to the applicant that this is a product by process claim wherein the patentability is determined by the product itself and not the process (see MPEP 2113).

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ushikoshi et al in view of Masanao et al as applied to claims 12 and 18-20 above, and further in view of Kersten et al (US 5,919,385) or Hecht et al (US 5,877,475).

Ushikoshi et al in view of Masanao et al show the ceramic heater claimed except the claimed means of an elastic body or screw.

Kersten et al show a temperature sensor being pressed by a spring elastic means to press the heating temperature sensor against the heating surface. Hecht et al also show a temperature sensor being pressed against the heating surface by an elastic body such as a spring member.

Art Unit: 3742

In view of Kersten et al or Hecht et al, it would have been obvious to one of ordinary skill in the art to adapt Ushikoshi et al, as modified by Masanao, with the means such as an elastic body or screw as an alternative means to more securely press the heating temperature sensor against the heating surface so that the temperature sensor can make a close contact with the heating surface and to more accurately measure the operating heating temperature.

6. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ushikoshi et al in view of Masanao et al as applied to claims 12 and 18-20 above, and further in view of Nobori et al (US 5,616,024) or Burkhardt et al (US 6,469,283).

Ushikoshi et al in view of Masanao et al show the ceramic heater claimed except the claimed circuits.

Nobori et al and Burkhardt et al show the heating element having a plurality of heating conducting circuits. In view of Nobori et al or Burkhardt et al, it would have been obvious to one of ordinary skill in the art to adapt Ushikoshi et al, as modified by Masanao et al, with the plurality of heating circuits so that each heating elements can be independently controlled and better enable a more uniform heating across the heating surface.

7. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ushikoshi et al in view of Masanao et al as applied to claims 12 and 18-20 above, and further in view of Yoshida et al (US 6,080,970).

Ushikoshi et al in view of Masanao et al show the ceramic heater claimed except the claimed flat shape.

Yoshida et al shows a heating element having a flat shape. In view of Yoshida et al, it would have been obvious to one of ordinary skill in the art to adapt Ushikoshi et al, as modified

Art Unit: 3742

by Masanao et al, with a heating element having a flat shape to further improve the heating distribution by the heating element.

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ushikoshi et al in view of Masanao et al as applied to claims 12 and 18-20 above, and further in view of Huebscher (US 4,416,553).

Ushikoshi et al in view of Masanao et al show the ceramic heater claimed except the claimed connection portion that is equal or larger than a strand wire.

Huebscher shows a thermocouple with a strand wire connected thereto. Huebscher further teaches that the connecting wires are preferably to be small or smallest possible. Huebscher teaches that its thermocouple would provide a quick response without much heat loss. In view of Huebscher, it would have been obvious to one of ordinary skill in the art to adapt Ushikoshi et al, as modified by Masanao et al, with a small or the smallest possible strand wires including the diameter size .5 mm or less in connection with the thermocouple to increase the sensing response time while minimizing the heating loss.

#### ***Response to Arguments***

9. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO**

Art Unit: 3742

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y Paik whose telephone number is 571-272-4783. The examiner can normally be reached on M-F (9:00-4:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sang Y Paik  
Primary Examiner  
Art Unit 3742

syp